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## Cervélo P5 aerodynamic development



Presented at the STAR Global Conference 2012

The presentation will be divided in the following sections:

### 1. Cervélo in the past

A brief history of how Cervélo performed the aerodynamic analysis of bikes, such as the P4. The primary tool was the wind tunnel, a time consuming development phase, yielding good quantitative solutions but no qualitative solutions.

A summary of development time and resources will also be included.

### 2. CFD Benchmarking

Prior to the development of the replacement of the P4 time trial bike it was necessary to make sure that STAR-CCM+ provides the correct results in both, absolute and relative terms. Successful correlation to the wind tunnel will be shown.

### 3. P5 Aerodynamic Development

The complete aerodynamic analysis of the P5 will be exposed. This section will be divided in two parts. In a conceptual stage "major brush strokes", where the general shape was chosen. The second part contains the "detailed analysis" where front-ends, brakes, aero bars etc. will be explained.

### 4. Future work

Old and new aero development techniques will be compared, showing that STAR-CCM+ has not only shortened the development time and reduced the costs but also helped yielding better and more exciting products.

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Cervélo

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#### **Industries:**

[Sports](#)<sup>[2]</sup>

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